

CLAIMS

1. An omnidirectional visual camera comprising:

a reflecting member including a rotating surface portion
5 having a convex surface of a rotating secondary curved surface
and a cylindrical portion having a cylindrical shape and
having a rotating center axis aligning or virtually aligning
with a rotating axis of said rotating surface, said rotating
10 surface portion and said cylindrical portion being integrally
molded of a transparent material so that an outer diameter
portion of said rotating surface portion is inscribed in the
cylindrical portion, the projecting surface of said rotating
surface portion being processed into a mirror surface; and

a camera having an optical axis substantially aligning
15 with the rotating center axis of said reflecting member and
installed opposite to the convex surface of said rotating
surface portion,

said camera picking up a reflected image reflected from
the convex surface of the rotating surface portion of said
20 reflecting member.

2. An omnidirectional visual camera comprising:

a reflecting member including a rotating surface portion
having a convex surface of a rotating secondary curved surface,
25 a cylindrical portion having a cylindrical shape and having
a rotating center axis virtually aligning with a rotating axis
of said rotating surface, and having a cylindrical inner
diameter larger than an outer diameter of said rotating
surface portion, and a connection section for connecting one
30 longitudinal end of said cylindrical portion and the outer
diameter portion of said rotating surface portion, said
rotating surface portion, said cylindrical portion, and said
connection section being integrally molded of a transparent
material, the projecting surface of said rotating surface
35 portion being processed into a mirror surface; and

a camera having an optical axis substantially aligning with the rotating center axis of said reflecting member and installed opposite to the convex surface of said rotating surface portion,

5 said camera picking up a reflected image reflected from the convex surface of the rotating surface portion of said reflecting member.

10 3. The omnidirectional visual camera according to Claim 2, wherein the convex surface of the rotating surface portion has a hyperboloidal shape having an internal focus, and the connection section is configured so that an arbitrary line joining the outer diameter portion of the rotating surface portion and said internal focus together passes through the
15 cylindrical portion.

20 4. The omnidirectional visual camera according to Claim 2 or 3, wherein the connection section of the reflecting member or both the connection section and a surface of the rotating surface portion which is not processed into a mirror surface are processed to block light.

25 5. The omnidirectional visual camera according to any of Claims 1 to 4, wherein one end surface of the cylindrical portion to which the rotating surface portion is connected has a smaller diameter than the other end thereof.